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SCHOOL AND SOCIETY

EDITED BY J. McKEEN CATTELL

Volume VIII SATURDAY, DECEMBER 7, 1918 Number 206

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SCHOOL AND SOCIETY

Volume VIII SATURDAY, DECEMBER 7, 1918 Number 206

PROSPECTIVE CHANGES IN EDUCATIONAL STANDARDS AND IDEALS[1]

SOME time ago I received a visit from the director of the Third Middle School of Tokyo. This gentleman, in company with several of his countrymen, was making a trip around the world; and the object of his somewhat leisurely journey—the commission had already spent several months in this country—was to seek information regarding prospective changes in educational standards and ideals. It was felt in Japan that the great convulsion of the World War could not but have an important influence upon educational aims and practises, and with uncanny foresight these Oriental gentlemen were endeavoring to sound educators in all the accessible countries of the Western world, so as to secure their views upon educational reconstruction.

Had I possessed a like foresight, and realized that I might later be asked to speak upon the subject of their inquiry, I might perhaps have turned the tables on my interviewer, and thus furnished myself with the materials of this paper. Not having done so, I must rely in what follows upon such prophetic notions as I have myself gathered during these long months in which we have been feverishly participating in the catastrophe of war.

Yet prophecy is too strong a word, for me at least, and the burden of my thought is more logical than clairvoyant. It is commonly agreed that we are upon the verge of a new era. Whatever the new order may be, so profound a shaking up as the civilized folk of this world are now receiving could have no other result than to throw our traditions and conventions into a new light, and give them a new perspective. While I must disclaim the gift of prophecy, I may perhaps exercise the judgment of one who keenly participates in the events of the present, and who reasons as best he may regarding the course they are likely to pursue in the future. For after all it is the antecedent events that give impulsion to the consequents, and the transition period in which we now linger is already rich with the germs of future growth. In war, as in peace, we can read the future only in terms of the present; although it is true that in times like these events will shape themselves with a marvelous rapidity, and seeds that are casually sown may spring up and bear fruits before we have given thought to their growth.

As I see the future of our educational situation in the light of present events, I am chiefly impressed by two aspects of education which I may call the *vocational* and the *cultural*. It is with reference to these two trends, among the many which one might choose to follow, that I propose to speak. My thesis in brief is this: If we would preserve our civilization, and build a new and a better world, we must provide at once for both these forms of education. The citizen of the future should be a *cultured vocationalist*. The danger which I see already lurking in the present resides in a one-sided development, and that side is the vocational. The suggestion of danger from overemphasis is quite apparent, because the vocational side of education has

[1] Read before the Interstate Schoolmasters' Club at Elmira, N. Y., October 12, 1918.

been slurred in the past, and now under the stress of war we are awake above all else to the need of efficient workmanship.

The sudden transformation of our country into a vast military camp has brought us face to face with the problem of selecting men for special vocations. The government demands "the right man in the right place." In the emergency it is less concerned to find the right place for the right man. The individual is a secondary consideration. The machine of war with all its varied workings must be manned by those best fitted to perform its functions.

This is in sharp contrast with our former individualistic methods. In the past we were so intent upon providing equal opportunity to all, that many drifted along without ever achieving a place in life for which they might be said to be properly qualified and trained. This freedom in the choice of a calling has been responsible for the versatility of our people, and it has permitted many to rise from the humblest origins to dizzy heights of affluence. Yet we must admit, I think, that the process has been attended by a tremendous waste of human effort, and that chance has played a very large part both in success and failure. We begin now to realize that efficiency is a social problem; that the machines of government, of industry, of the professions, and of citizenship itself, depend for their smooth running upon communal effort. This means that not all can be engaged in the same tasks, nor is each one equally fitted for every calling. A special fitness and a special training are requisite to put the right man in the right place, and the places must be filled, and filled efficiently.

With this end in view vocational training will be more widely sought in the future, and it must be provided for in a measure hitherto unknown. Nor is it enough that we should have an elaborate system of trade schools. We must devise methods of selection for the various vocations of life that will reach down into the years of adolescence, and pick out the prospective talents and abilities of our youth. Not alone vocational training, but vocational guidance as well, is a prime requisite in order that the right men and women may be chosen for their abilities, and then trained for definite pursuits.

The needs of our army in classifying its personnel furnish a striking illustration, and the methods already devised to secure the right man in the right place are certain to furnish us with a means that will be elaborated for diverse uses in the future. Hitherto the promotion of pupils through the grades has been the principal evidence we have had of their intelligence and ability. But at best this has only informed us of a certain aspect of intelligence. The standards of different schools and of different teachers have greatly varied. Teaching is not always of the best grade, and the pressure brought to bear from without leads many teachers to pass all whom they can, and send them on to the next higher class.

The use of intelligence tests, first formulated by the distinguished French psychologist and educator, Alfred Binet, enables us to measure the general intelligence of a child with considerable accuracy, and without reference to his schooling or school marks. Recognizing this, the army recruits of the present are each subjected to such tests, and their scores recorded upon their classification cards. But while the intelligence tests are quickly administered, and can tell us with perhaps greater accuracy than the average school record what is the mental caliber of the individual, they are not designed to measure special fitness for a vocation, or the general and emotional stability essential to effective citizenship.

Fitness for a vocation can be determined by specially devised "trade" tests: tests of constructive ability and dexterity, both oral and experimental. As for stability of character, the question of general efficiency is at present answered by methods of rating. If we select the qualities that seem most significant, and by which we are accustomed to judge men, we may devise a rating scale that will enable us to estimate an individual much more accurately than by the hap-hazard judgments commonly employed. Such a scale is being used with great success in the army to estimate the abilities of officers, and to determine their merit in promotion. The more important qualities one looks for in the particular vocation in hand are first determined. Each of these receives an arbitrary weighting, so that they will sum up to 100 per cent. as perfection. Under each of the several heads different degrees of perfection are allowed for by similar arbitrary weightings. In the administration of the scale, the judge provides himself with a "key" by choosing from his acquaintance individuals who show varied degrees of proficiency in each of the several qualities. The rating process is then a comparison of the individual being rated with a set of concrete cases illustrating each of the traits of character and ability that are under consideration. He receives the number of points for each quality that stands opposite the name of the person he is most like. The addition of these points gives his total rating, and is an estimate of his general character that includes many traits which the intelligence and vocational tests do not reach. By such means as these we may in future select our pupils for special training of a vocational order. And we may confidently expect that schooling will become a more definite task, and its achievements more clearly discernible and measurable.

While it has long been our aim to furnish education at public expense to all children, rich and poor alike, we have nevertheless been providing an education ill suited for all. Despite the introduction of many modern studies, the old curriculum, devised primarily as a training of the mind, has remained the backbone of the system. This curriculum, though still appropriate in many cases, has no such general applicability, in a public school for all the people, that it formerly had for the selected group emanating from families of the higher cultural order who designed that their sons and daughters should undertake the more refined accomplishments and callings. The adoption of the cultural curriculum for the masses has resulted both in destroying a good deal of the fine flavor and significance of this ancient mode of education, and also in failure to achieve an educational method suited to the present needs of a great democracy. As public education has spread, and the mass of the school population has increased in heterogeneity, the defects of the scheme have been more and more apparent. We hear bitter attacks upon the whole educational situation, and an ardent desire to make schooling of practical use in life can not longer be gainsaid. The impetus towards vocational education is well grounded, and will surely be promoted in future with increasing vigor.

Yet vocational education can never take the place of cultural education. We must therefore ward off a rivalry between two systems which ought never to become divorced. If vocational education is a training for active participation in the work a man must do in life, cultural education provides for an enrichment of mind, and an increased capacity of thought. The essence of vocationalism is technical skill in performance, although this does not mean that

it is something one can achieve without a considerable mental alertness and initiative. The essence of culture, on the other hand, is appreciative thoughtfulness, which is not so much a *doing* as a *being*. The attitude of culture is largely contemplative, and it possesses an esthetic quality which is the very joy of living. Without this relish, life is a barren and routine affair. The vigor of youth may seem to deny the need of contemplation; but although at first so impetuous and so keen for immediate results, this zest soon vanishes, and without a certain mental reserve, the individual awakes to find himself ever struggling for results which are never quite attained. It is in providing against this disaster of failure through the cultivation of a calm and contented frame of mind that the glories of classical literature and a sense of historical perspective are so efficacious. A value disciplinary to the whole mind is to be had from pure linguistics and mathematics, which one may vainly seek to find among the more "practical" subjects of the curriculum.

We do well to remember that each act of thought is a unique, and for the thinker, at least, a creative operation. It is a spiritual adventure to reason, to understand and to contemplate. Our vocationalists are apt to deride this, and to contend that all there is of real value may be found in useful work. To be sure, useful work may be joyful, though not precisely because it is useful. Rather is it joyful when we put joy into it, and that is only when we relish it as an expression of our being, and not as a mere act of doing.

Since the industrial revolution men and women have been called upon in increasing numbers to tend and feed machines. For eight or more hours in the day many thousands stand in alert expectancy to turn a piece of metal or drive a bolt by a steady succession of unvarying acts. Here, indeed, is scant opportunity for contemplation, yet mental activity is not lacking on the part of such workers. Every act must be foreseen and prepared for. Without a certain alacrity of mind, these acts, simple though they may seem, could not be performed in the swift tempo that is set. But if these workers are given little chance for creative thought during working hours, all the more must their minds cry for food when factory hours are over. The very mind that is able to keep up with the machine is one that most needs a fair chance to express itself during some period of the day. In order to furnish the mind with methods, information, and points of view, to be exercised during these leisure periods, a cultural side to vocational training is necessary. Our factory operatives are at once human beings and the citizens of a great republic. Give them only that training which will enable them to man the machines, and they will be thrown upon their own resources during their out-of-work hours. Their characters as neighbors and citizens, as fathers and mothers, must then be formed by such intercourse with books and folk as chance may throw in their way. The fact that they are skillful workmen is a certain guarantee that they will find some intelligent commerce with the main propositions of life; but like all minds whose training and discipline has been casual, theirs will be a prey to bigotry, and of a kind that readily sours on the world. For their outlook is narrow and their perspective shallow. The remedy for this is an appropriate combination of cultural and vocational training in the schools.

Let us agree with Mr. Flexner that no subject should be included in the curriculum "for which an affirmative case can not now be made out." But let us not be over hasty in the rejection of subjects which

have remained in the schools for ages, just because they are aged. Why should not a factory operative study Greek? Chiefly because it is unlikely that he has ever been trained to appreciate the significance of his own mother tongue. Without a feeling for languages—its rules and its conventions, the play of words and the logic of composition—it is indeed difficult to awaken interest in a tongue that is dead. Yet if this person had been properly schooled in the use and meaning of his own tongue, what more inviting way could be opened to him than through the field of Greek?

There is none of the traditional subjects of the curriculum for which an affirmative case can not be made out. It is no fault of the subject that the mind of the pupil has not been adequately prepared for a new field of thought and feeling. A profound significance attaches to all the humanistic studies, as being those which deal with man's own peculiar monuments of thought and contemplation. But of course Greek and Latin are not the only avenues to humanism. There are many others; among which I am inclined to believe we have suffered more and achieved less from the instruction in our own mother tongue than we have from all the classics that have ever been crammed into unwilling noddles.

It is not so much a matter of the subject, as it is an orientation into the realm of broad human interests that a democratic education must provide. And here we should do well to apply something of the vocational ideal to the study of the humanities. There is too wide-spread a notion that by taking your dose of dry-as-dust stuff you may somehow achieve a discipline of the mind that will stand you in good stead later on, even after you have forgotten all the rules and formulæ which you once were compelled to learn and recite. If the vocational ideal is that of knowing how to do, while the cultural ideal is that of knowing how to think and to be, then these are in no wise contradictory, but are reciprocally interdependent. Modern civilization provides innumerable specialized vocations, but the greatest vocation of all, and the one in which we all of us partake, is that of sharing the burden of humanity as free, self-reliant and self-sufficient agencies. To achieve such a citizenship with its rights and duties it is requisite that many aspects of personality and character should be cultivated, and likewise that much useful knowledge should be acquired. The schools can not do all, but they can do much. In the hands of teachers who are both cultivated in this broad sense of citizenship, and who are also experts in the technique of their special fields of work, pupils may in turn be trained to do efficiently what a modern state demands of them, and at the same time be inducted into ways of thought which will furnish the mind against dullness, and inspire and give incentive to the eternal quest of knowledge.

The present trend of education towards the reconstructive period that will soon be upon us indicates the employment of exact and searching methods for finding the right man for the right place. When found, his training, in outward form at least, will be far more definite and vocational in its nature than it has been in the past. Let us not neglect our opportunity to furnish the minds of these young people with meanings and points of view that will make their lives fuller and sweeter, while the technical training to which they submit is rendering them more efficient for their daily tasks.

In addition to the trend towards vocationalism, the end of the war will doubtless also usher in a renaissance of art. A great cataclysm like that of the present is bound to leave us with the depressing after effects of overwrought nerves. For a time

many will lose their stiffness and crumple up. Melancholy will spread its shade over large masses of people, and sentimentality and mawkishness will be rife. In such moments the workaday concerns of men and women seem to lose their significance, and one passes readily into the land of dreams. As an expression of these dreams art speaks, and is heard. If we but seize the moment and know how to appreciate its worth, this inevitable slackening of effort may be turned into a quickening of the soul. Poetry and philosophy will come to us as divine messages, and what we no longer wish to do for mere hire, we shall do, and do gladly, for the sheer joy of the doing. Let us listen, then, for the voices of these singers, and weave their songs with responsive chords of our own into the daily tasks that confront us. This will be a means of restoring our souls, and likewise an actual and a lively incentive to make our educational programs human as well as effective.

In training men and women to do things efficiently we dare not neglect to cultivate their minds to the end that they may become persons of individual worth, knowledge, and attainment. The change towards a far greater development of vocational training seems inevitable. Fewer students may be electing the more strictly cultural subjects. But the problem before us is so to adjust our programs that the introduction of the vocational training may give us a new outlook upon culture. Thus may the cultural courses be revivified and retained as a necessary complement to the more practical training that is demanded of us.

CORNELL UNIVERSITY R. M. OGDEN

HUMANISTIC STUDIES AS COMPENSATION FOR LOST TRANSCENDENTAL VALUES

THOUGH the present tendencies in education are strongly vocational, the ghost of cultural aims refuses, happily, to be laid. Our ideas of what constitutes a liberal education, however, have changed in recent years. Aristocratic notions of the incompatibility of labor and culture (requiring leisure for its realization) have given place to the view that the liberally educated man can not be wholly a man of leisure, standing aloof from the work of the world, but must be engaged intimately in the world's work. And yet, in spite of all our efforts to synthesize vocational and cultural aims of education, there will always be a contrast between making a living and making life worth living, between the strenuous life and the quiet life, between the life of practical effort and the life of appreciation. Pragmatism, the most representative of American philosophies, and the basis of our prevailing educational tendencies, does insufficient justice, perhaps, to certain very vital human interests. With its biological basis, it measures values in terms of life. For this it is to be commended. But, in spite of its expressed purpose to the contrary, it may perhaps do an injustice to human life, may present something of a caricature of it, through failure to recognize sufficiently that man does not live by bread alone.

The Platonic conception of the highest type of man, the philosopher, defined as one "who has magnificence of mind, and is the spectator of all time and all existence," seems un-American, and is so, indeed. Nevertheless every one is, in greater or less degree, a Platonic philosopher. There are interests, genuinely instinctive in basis, which, if cultivated, become entirely non-vocational. Merely making a living does not eventually satisfy, for life is not worth living unless it is made so by those who live it. Goethe said truly of life, "Though all men live it, few there be that know it." The all-too-prevalent American attitude

towards life, somewhat Epicurean and perhaps irreverent, favors the living as contrasted with the knowing of life. Yet it is a fact that to know life is a stronger interest in some individuals than to live it, an interest, furthermore, that deserves commendation, not censure.

I

The past few decades have witnessed a steady growth of naturalism and of non-religious thinking, not only among scientists,[1] but among students in our colleges as well.[2] The transcendental philosophies that formerly offered satisfaction to the idealistic cravings of enlightened human nature, and the supernaturalistic religious beliefs that comforted popular yearnings after the uncomprehended good, have been put on the defensive. They have been put on the defensive by the rapid progress of the sciences, especially since Darwin enabled us to study man, in his physical aspect, as part and parcel of animal nature, and imparted the stimulus to comparative psychologists to explain the human mind and soul in terms of animal behavior. Such a mutation of intellectual climate, caused in part by the work done in the universities, has exerted a reciprocal influence upon educational theory and practise from the universities down to the kindergartens.

The most inspiring source of present-day educational philosophy, having as a result the gradual regeneration of American educational practise, Professor Dewey, is wholly naturalistic in his philosophic outlook upon human life. A pragmatist, conspicuous among the pragmatists of the world, Dewey represents, however, the naturalistic wing of pragmatism, unlike James, who labored hard to find support for man's religious beliefs, and unlike Mr. F. C. S. Schiller and other British pragmatists who give a religious turn to pragmatism. In such a philosophy as Dewey's, based firmly upon the accredited results of the special sciences, including human and animal psychology, the human mind is reduced to a form of behavior, and religion evaporates, leaving only morality in its place.

The interest and attention of the educator, consistently with such a philosophy, are removed from medieval, other-worldly ideals, and centered upon the physical life of man as it is lived here and now. Man is essentially an animal organism, impulsively moved by inherited instincts common to man and to the lower forms of life, struggling with an adverse environment in the effort to turn to human uses a world that was not made for him. The struggle merely to maintain life, without any of its refinements, has always been severe for the great masses of mankind. In the past, however, and even now so far as the Catholic church with its supernaturalistic machinery is able to hold sway over the lives of men, other-worldly satisfactions have been, and are, promised to society at large as compensation for thwarted physical interests; while transcendental philosophies of various types, such as those inspired by Plato and by German idealists, have offered to the intellectual élite a refined compensation for worldly dissatisfactions. "How painful is this world of time and space!" said Emerson; and then his world-weary soul sought refuge in the Over-Soul.

With the disappearance of supernaturalistic sanctions from educational theory and practise, emphasis has been laid, where it belongs, upon the material side of life. If man's life is limited, on the average, to little more than half of three score years and ten, education should aim to adapt man to the practical necessities of this lim-

[1] *Cf.* J. H. Leuba, "The Belief in God and Immortality," Ch. IX.

[2] *Ibid.*, Chs. VII. and VIII.

ited existence. With the disappearance of other worldly rewards for worldly sufferings, life can not be worth living unless it it made so in the present. And the insistent needs of the majority of mankind consist of physical needs for food, health, and the reasonable material comforts of life. Such needs are to be provided for more adequately than in the past through a widespread education of a practical sort. Consequently the vocational trend in education is pronounced, and the vocational emphasis is justified. For those whose education is of a higher type, to fit them for the professions, the applied sciences, having a fundamentally practical aim, are being stressed, and here again the practical emphasis is justified.

But is the college, with its humanistic traditions and its present avowedly cultural aims, to be crushed out between the vocationalized high school and the professional school, or, if not crushed out in name, then in substance, through being itself vocationalized? Just because I am so thoroughly in sympathy with the vocational trend of secondary education, I desire to point out reasons why the very conditions which require a more vocationalized high school require a more humanized college. Our naturalistic philosophies, whether called pragmatism or neo-realism or plain scientific materialism, while requiring increased vocational education to enable the many to make a comfortable living, also require increased humanistic education for the few, self-selected from the many, of course, not predetermined by a caste system of society as in some European countries—for the few who demand more than mere physical satisfactions to make life worth living, or even tolerable.

II

Reasons why the present vocational tendency should not be allowed to invade the college are to be found in an examination of the implications of our prevalent naturalistic philosophies.

One's temperament determines, to a considerable extent, whether one is to be made optimistic or pessimistic by a naturalistic outlook upon life. Some are able to eat, drink, and be merry, without ever taking thought for the morrow. But, for the majority of refined natures, the least bit of reflection upon first and last things brings with it some degree of pessimism if such reflection rests ultimately in a materialistic solution of the problem of human life.

The pessimism of naturalism has been a frequent theme in poetry and in philosophic prose. James Thomson's "City of Dreadful Night" contains passages that express a pessimism that borders on despair. Mr. Balfour[3] and William James[4] have described vividly the attitude of many minds towards the world of scientific evolutionism. Thus James says:[5]

> Sadness lies at the heart of every merely positivistic, agnostic, or naturalistic scheme of philosophy. Let sanguine healthy-mindedness do its best with its strange power of living in the moment and ignoring and forgetting, still the evil background is really there to be thought of, and the skull will grin in at the banquet. . . . For naturalism, fed on recent cosmological speculation, mankind is in a position similar to that of a set of people living on a frozen lake, surrounded by cliffs over which there is no escape, yet knowing that little by little the ice is melting, and the inevitable day drawing near when the last film of it will disappear, and to be drowned ignominously will be the human creature's portion. The merrier the skating, the warmer and more sparkling the sun by day, and the ruddier the bonfires at night, the more poignant the sadness with which one must take in the meaning of the total situation.

[3] A. J. Balfour, "The Foundations of Belief," p. 30.

[4] Wm. James, "Pragmatism," p. 105; "The Varieties of Religious Experience," pp. 140 *sqq.*

[5] "The Varieties of Religious Experience," pp. 140–42.

A more recent and equally vivid picture of the pessimism of naturalism has been drawn by Mr. Russell:[6]

> To every man comes, sooner or later, the great renunciation. . . . By death, by illness, by poverty, or by the voice of duty, we must learn, each one of us, that the world was not made for us, and that, however beautiful may be the things we crave, Fate may nevertheless forbid them. . . . Brief and powerless is Man's life; on him and all his race the slow, sure doom falls pitiless and dark. Blind to good and evil, reckless of destruction, omnipotent matter rolls on its relentless way; for Man, condemned to-day to lose his dearest, to-morrow himself to pass through the gate of darkness, it remains only to cherish, ere yet the blow falls, the lofty thoughts that ennoble his little day.

Such a pessimism as Mr. Russell's is due to the conjunction of the pessimist's high ideals with his disillusioning beliefs about the objective nature of reality. Pessimism results from the belief in a fundamental misfit between reality and the objects of desire. The man who is content to be a brute, with a mere brute's desires, is not pessimistic at finding the world fundamentally brutal. But to the man aware of the "noon-day brightness of human genius," pessimism comes if he believes that "the lofty thoughts that ennoble his little day" are insufficiently grounded in the ultimate nature of things.

Alleviation of this sort of pessimism sometimes comes through the development of a belief in transcendental values that are real, and that will satisfy. In the past this has been the solution arrived at by many. Browning's optimism, for example, was based upon religious idealism. Reality, as he thought it to be, coincided with what he valued most. Abt Vogler's keys gave their sounds to the wish of the musician's soul. In music this wish "flowed visibly forth." The man with an idealistic temperament will be an optimist only if he believes that this palace of music, the objectification of lofty desire, is "founded flat on the nether springs" of reality. The religious idealist experiences all the emotions of spiritual sovereignty, believing, with the creative musical genius of Browning's poem, that "'tis we musicians know." To him reality seems to be such as to satisfy all his deepest longings. To him—

> All we have willed or hoped or dreamed of good shall exist;
> Not its semblance, but itself; no beauty, nor good, nor power
> Whose voice has gone forth, but each survives for the melodist
> When eternity affirms the conception of an hour.

III

Though the present age may enjoy Browning as a poet, it can not accept him as a philosopher. Idealistic solutions are becoming increasingly difficult of acceptance, and the twentieth century, whether rightly or wrongly, truly or falsely, is committed to a naturalistic course. Even democracy, for which we are fighting, is now associated with a materialistic philosophy, just as it has been historically. It is very essential that materialists should make the world fit to live in, for this is the only world that they regard as real. It is less essential for religious idealists that the world should be fit to live in. Religious convictions have always led men to scorn worldly satisfactions in the quest of compensatory other-worldly happiness.

Since contemporary life rests upon naturalistic foundations, some substitute for transcendental satisfactions must be found. Right here is where the value of humanistic studies manifests itself. Humanistic culture, and nothing else, can make life worth living for the man with high ideals and a naturalistic philosophy of life. If

[6] Bertrand Russell, "Mysticism and Logic," pp. 52, 56–57. "The Free Man's Worship," from which the quotation is taken, has been published also in an earlier volume, "Philosophical Essays."

the universe at large is unsympathetic towards human ideals, then turn to humanity itself as one's proper study. Aim to make nothing human foreign to one's interests. Learn to enjoy the works of the human mind as it has expressed itself at its best throughout the centuries. And, finding no temple in the universe at large fit for the worship of one's ideals, resolve to build one's own temple within one's own unbounded imagination. As Mr. Russell says,[7] only "in the realm of imagination, in music, in architecture, in the untroubled kingdom of reason, and in the golden sunset magic of lyrics, where beauty shines and glows, remote from the touch of sorrow, remote from the fear of change," can there be found a suitable goal for man's idealistic interests.

Not by his own untutored efforts, however, can the individual construct a worthy temple of human ideals. He requires the tutelage of the best that the human mind in all ages has produced. Just this is what the college has always aimed to give, and this is what the college is justified in continuing to give. The methods of achieving humanistic ends in the lives of the students may change, but the purpose embodied in the changing methods should be constant.

The "new humanism" that is needed in the twentieth century differs in several respects from the humanism of the Renaissance. In the first place, the men of the Renaissance had to return exclusively to the life of the Greeks and Romans to find worthy cultural achievements to study and to emulate. We now have, in addition, the cultural achievements of recent centuries. In the second place, for the men of the Renaissance a knowledge of the Greek and Latin languages was the first essential, being an indispensable prerequisite to admission to the treasures of classic literature. We now have our own Shakespeare, "whose insight makes all others dim," and very many besides who have spoken the tongue that Shakespeare spoke, and other modern tongues, whose works are worthy of our best study. But we recognize the claims of Greek culture, which, perhaps, as Galton said, stands in some respects as far ahead of modern European culture as this in turn stands above the culture of African savages; and we urge, not less, but more study of classic art and literature and philosophy. At the same time, however, we recognize that the past may be studied without a knowledge of the ancient languages, thanks to the labors of competent translators, who have done well their part in the interpretation of the past to the future. Jowett's translation of Plato, for example, has not only become an English classic, but it will give anyone except the specialist in the Greek language a better understanding of Plato's philosophy, and even a better appreciation of his literary art, than could be gained through an amateurish study of the original writings of Plato. No one objects to the reading of the King James version of the Bible on the ground that it is not in the original languages of Scripture.

In the third place, the men of the Renaissance lived just at the beginnings of modern science, and consequently, so far as the general life of the times was concerned, they lived in a prescientific age. We, on the other hand, live in a preeminently scientific age, and we believe that the study of pure science is capable of contributing essential elements to the life of the truly cultured man. And in developing a genuine scientific attitude towards the universe, the study of science is able to offer some of those compensatory factors that the twentieth century needs most of all as a substitute for the transcendental values

[7] *Ibid.*, p. 52.

that science itself has taken away. Science teaches that the world was not made for man, and that man's most intimate ideals are alien to the physical environment by which they find themselves encompassed. But science, besides teaching the necessity of renunciation, is at the same time capable of imparting an attitude towards the universe that is almost optimistic. To quote again from Mr. Russell,[8]

> The scientific attitude of mind involves a sweeping away of all other desires in the interests of the desire to know—it involves suppression of hopes and fears, loves and hates, and the whole subjective emotional life, until we become subdued to the material, able to see it frankly, without preconceptions, without bias, without any wish except to see it as it is, and without any belief that what it is must be determined by some relation, positive or negative, to what we should like it to be, or to what we can easily imagine it to be.

Thus the "new humanism" of the twentieth century should include the permanent values of the older humanism, but it should have, in addition, a character of its own, shaped by modern human achievements in science. So, in the fourth place, while the humanism of the Renaissance was wholly retrospective, the "new humanism" is also, and especially, prospective in its outlook. It is of the essence of science, through discovering the uniformities of nature, to make possible the prediction and control of future events, and this forward-looking habit engendered by the study of science should be embodied in any present-day humanism worthy of the name.

IV

A defense of humanistic studies is apt to be met, in America, with the criticism that it is undemocratic, and out of harmony with the tendencies of American life. It will be said that a genuinely humanistic education is compatible only with an aristocratic social system and an autocratic political system. Critics may say that such non-vocational ideals form a part of the general body of educational traditions, which are being looked upon with suspicion just because they are traditions, if for no other reason.

In reply to such possible objections I would urge that my interest in the cause of humanistic studies forms a part of my completely democratic interest in education. But democracy does not stand for a dead level of mediocrity. It insists upon equality of educational opportunity, but equality of opportunity only, for it expects individual differences to exist and to assert themselves. A selection at the beginning of their educational career, chiefly upon a social and economic basis, of the youth who are to be given the advantages of a higher education, is undemocratic; but it is not undemocratic to allow individual ability full scope for its maximum attainment in the school system. Though the high school, in order to serve community needs most adequately, is becoming vocationalized, there is need of opportunity elsewhere in the educational system for non-vocational studies. The college may maintain its humanistic and non-vocational aims without implying adherence to an outworn aristocratic social theory. The American college is not undemocratic so long as it remains possible, as at present, for any student of ordinary health and the somewhat more than average intellectual interests which are necessarily implied in the desire for a college education, to secure the advantages of a college training regardless of the social and economic status of the home from which he comes. Every year students by the thousands are working their way through college entirely without outside financial assistance. So long as

[8] *Ibid.*, p. 44.

this is possible, our colleges are not undemocratic institutions.

It may be objected, further, that I have exaggerated the extent of the pessimistic reaction of college students incident to the process of their mental reconstruction in college. I would myself recognize, and insist, that to only a few does my advocacy of humanistic studies as an antidote for the pessimism of naturalism apply; but these few are the salt of the earth. And such students are not so few after all, for they include all who think at all, and who see the implications of what they study. Then there are other students, also, who are unhappy in a crudely materialistic world because such a world is not beautiful. Their esthetic interests predominate, and they will go to the ends of the earth to find satisfaction for such interests. This, again, is a class that is few in number, but its existence speaks positively for the existence of non-vocational, esthetic interests, genuinely instinctive in origin, which are present in some slight degree in all of us.

The objection to humanistic aims in education is sometimes based on an economic interpretation of human nature, an interpretation which claims that the economic interest predominates in all men, even if it is not, in the last analysis, the one interest that subsumes all other interests. Psychological studies and, one would think, common observation, show the absurdity of such a view, yet it persists in many quarters. Its persistence leads to the demand for vocational training to the exclusion of all else. Herbert Spencer's relegation of humanistic studies, so far as he admitted them at all, to the fifth and last place in the program of studies arranged in the order of their relative worth, did an injustice to human nature, however important his emphasis upon the value of science may have been. In the lower grades of the educational system his views are adequate enough, and commendable, but not in the field of higher education. Spencer failed to appreciate the claims of that small, self-selected group whose needs, and, frequently, whose conscious demands, are for humanistic studies. Such studies only can make life worth living for those who suffer from the loss of transcendental values.

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WASHINGTON UNIVERSITY

IS HIGH SCHOOL CHEMISTRY A VOCATIONAL SUBJECT?

Vocational advice is asked.

Dr. Charles H. Herty, at the time president of the American Chemical Society, once made the following statement in an address: "A man brought his boy to me, saying, 'I want him to be a chemist,—in what branch of chemistry shall I start him?' I replied that—"

The new superintendent of schools in the large city of M— said to his teacher of chemistry in the vocational high school, "Our chemistry, sir, must be vocational! Give these tenth-grade boys such instruction, that the laboratories and industries of this city shall be eager for them!" The professor answered, "I think—"

When the war-stories began to clothe the patient labors of the chemist with a mystic glamor, eager queries concerning this field of labor came to the writer with increasing frequency. The problem was discussed with Professor R. W. Selvidge, Department of Industrial Arts and Vocational Guidance, George Peabody College for Teachers, and to the question "How can a boy best be made a chemist?" we advised—

What should be advised? Dr. Herty had said, "Your boy should first get the best possible course in general chemistry." The professor told the superintendent, "I'll have the boys analyzing water in six days, testing the city's food in six weeks, and doing research in six months," for he knew that if the superintendent demanded it, it would have

to be done, and chemists conjure with the number six. And to answer these parents who had appealed to us, it was first necessary to determine whether, in this city at least, there was need for some educational institution to establish elementary courses in chemistry of a specifically "practical" or "vocational" type.

The problem studied.

In the early part of 1918, thirty-six industrial plants and laboratories of this city (Nashville, Tenn.) were visited, each of which used some chemical process, or operated under chemical control. Three classes of chemical workers were found to be employed—college or technical school graduates, with chemistry as their major field; workers who had studied chemistry in high school, but no further; workers whose chemical knowledge had been gained by experience only. They were distributed through the industries as follows: 15 industries employed college men exclusively; 1 industry employed a college man, assisted by a high school graduate; 1 industry employed a college man, assisted by an "experience only" worker; 1 industry employed a high school graduate, assisted by an "experience only" worker; 18 industries employed men with experience only.

Here indeed appears a "caste system" established on a basis of training! What does it signify that only two firms employ a high school graduate, standing on the middle ground of elementary chemical training? Has high school chemistry no vocational value?

That the high school graduate is neither as good a chemist as the college man, nor as poor a one as the rule-of-thumb worker, would need no argument;—yet there were specific objections raised against him both from above and below,—from those with greater training, and those with less.

Attitude of executives employing college men exclusively. The composite opinion of the fifteen laboratories and industries employing college men exclusively objects to the high school graduate in two particulars—

1. He has lacked systematic instruction in qualitative and quantitative analysis.

2. He does not possess the spirit of research.

Thus deficient, he is neither a reliable nor a resourceful worker. "It simply takes a college man to hold down this job!" said one executive, and very little room for argument seemed to be left. Chemists in these industries have received training which has carried them beyond vocational employment into professional careers.

Attitude of executives employing chemical workers with experience only.

Three specific questions were propounded to those employers whose chemical workers possessed only the training of experience. The results stand out vividly on tabulation:

Question	"Yes"	Answers "Slight"	"No"
Would this industry be benefited by the employment of young men with high school courses in chemistry?	1	2	15
Would better pay be given to such a high school graduate?	0	0	18
Would a high school graduate be able to earn more after he had learned the processes, than the present employee earns?	0	0	18

It is apparent that employers of this type of worker are satisfied with the results obtained. Their future comments confirmed this attitude. Of course, in many cases, the first answer was to please me,—a fancied anticipation of the judgment which I would prefer to hear. "Oh yes, I wish all of my men had high school science!" and "sure, they need high school chemistry!" was the glib response. But an earnest discussion with the employer as to his present insistence an educational requirements for his workers,—his willingness to recognize high school training as deserving a higher wage,—and in one or two cases, the direct proposition, "I can get you a few high school boys with a year's chemistry at least, about the first of June,—what work have you for them, and what will you pay them?"—these tests probed the genuineness of the original comments, and metamorphosed a bland acquiescence into a sincere statement.

Workers with high school chemistry are not considered necessary for the particular duties of these eighteen industries. Chemical man-

ipulations are learned after a few weeks, and a performance, satisfactory at least to the employer, becomes standardized in the mind of the worker. "There is no better way to do it," and "Nobody can teach us much more about this business," was the frequent remark of both workers and executives. This much is certainly true, that the attitude of employers in the city of Nashville is not encouraging to the study of high school chemistry with a vocational object.

High school training, then, makes the worker better, but not *enough better* for the particular tasks at hand to make it worth while! The high school course may include simple experiments which touch upon industrial topics and illustrate their processes, but plant conditions are never even approximated! Suppose the high school graduate *does* learn a little faster, understand a little more thoroughly, work a little more intelligently, yet his final achievements may not rank above those of workers who have no foundation of chemical instruction. Together they will come to the "great gulf fixed" between their rule-of-thumb methods and the unhampered originality of the trained chemist!

Readjustments of high school chemistry.

Having at hand these data and comments from chemical workers in the industrial field, a small group of teachers began to ponder. In spite of the apparent indifference discovered in this survey, no one would admit the uselessness of high school chemistry. It was agreed, however, that the legitimate demands of both the worlds of culture and industry might require a continuous revision of these courses.

1. High school chemistry must readjust its *informational aims*. The literature of science teaching, for the past few years, has been full of suggestions as to the methods by which high school chemistry could be vitalized, and brought more intimately in relation with daily life. This aim will not necessarily lead to superficiality. The subject matter of elementary chemistry must be obtained by a process of selection, for the richness of the field is embarrassing. A thing is not less fundamental because it happens to be interesting,—and fundamental chemical principles may be as readily illustrated by vital experiments as by purely academic ones. The faults of chemical instruction in the high school have been largely in the selection of subject matter.

This error has been recognized, and steps for its correction are being taken in all progressive places. It is becoming the custom to separate the boys and girls into distinct groups at the end of a half year, the boys pursuing a study of the metals, leading to qualitative analysis, and the girls proceeding into the still richer fields of household chemistry, the courses planned to be of equal strength.

2. High school chemistry must readjust its *college preparatory aims*. Not more than half of the high school graduates who enter college present chemistry for entrance. No college accepts high school chemistry for advanced standing, and but two or three of them offer courses in general chemistry separately for beginners and for students with high school training in the subject. A definite type of chemistry, with college entrance as its principal aim, will hardly continue as a part of high school instruction, for the colleges can accept the informational function of chemistry as sufficient for entrance, as no question of advanced standing is involved. High school science, of the vital sort, is more properly a recruiting agent than a drill master for the more earnest work of the college.

3. High school chemistry must organize its *vocational aims*. There are some large high schools in the north and east, which consider themselves preparatory to certain technical schools, in which courses in analytical chemistry, practically of college rank, are given. The average high school however, gives but one or two general courses, usually in the last years of the curriculum. For a high school to consider itself responsible for the vocational training of chemical workers presents many real difficulties, no matter how earnestly the teaching of industrial chemistry is carried on.

(*a*) It is often impractical to equip the laboratory with the proper apparatus. Whatever may be its illustrative value, "toy" equipment

does not give the true industrial training. Actual "plant conditions" are demanded.

(*b*) The theoretical nature of some of the commonest industrial processes is exceedingly complex. Yet if a high school student is taught the process and method without an understanding of the fundamental theory, is his knowledge any less rule-of-thumb than that of other workers?

(*c*) Only a small per cent. of boys taking any so-called "vocational course" in the high school ever enter that specific work in the earning of their livelihood. The high school can not afford to give this specific training unless a reasonable per cent. will actually make use of it.

(*d*) It is doubtful whether a man with only high school training is equipped for more responsible chemical duties than routine. The high school would be doing the profession of chemistry little service in encouraging boys to go into routine chemical positions which might prove to be blind alley occupations.

Vocational plans.

To really have any effective influence with the chemical workers of a city, it appears to the average employer that the whole method of administering vocational instruction may have to be changed. Two plans were discussed with workers and employers:

1. The part-time plan. A method, already applied in certain cities, notably Cincinnati, provides that during a period of apprenticeship, a worker spends half his time under systematic instruction concerning his special vocational problems. Where an appreciable number of workers are found in any one type of chemical industry in a city, it might be possible to outline special industrial courses in the high school which would be of benefit. Certainly a practical course in general chemistry would be desirable.

2. The supervisor plan. Professor Selvidge[1] has suggested a plan for other industrial subjects which might be equally applicable in the instruction of chemical workers. A broadly educated industrial chemist might systematically visit the plants where chemical workers are employed, and give them not only special, but general instruction in the fundamental principles of their work. The observation and advice of the supervisor would be direct, and applications to the process come first hand. Greater attention would be paid to his suggestions by the employer, and improvement in the methods and formulæ would come more quickly and surely. The supervisor would have to be a man who could be trusted with business secrets, but it is usually the case, where the industries employ untrained workers, that the imagined secrets are really not secrets at all to the chemist.

Many objections to each plan were advanced. The chief hindrance would be the self-satisfaction with which the average worker views his abilities, or with which the manufacturer accepts the present quality of his products. The greatest need of the workers in industry to-day is the spirit of desire for knowledge—the wish to know more than you must—to see farther than you are going—to understand deeper than the immediate need. The typical vocational course does not always have this spirit—yet no progress is possible without it. A type of instruction must always be measured by its underlying spiritual function—whether it is making a life, or only making a living. This survey has taught at least one great lesson, that elementary training is little better than none at all—that only by further study in a recognized educational institution can the high school graduate advance into the chemical profession.

And yet, the high school must react in some way to the profound interest which has been newly awakened in the chemical industries. It is worth while to make vocational surveys and plans, for some steps seem to be demanded, and "if a son ask bread of any man, will he give him a stone?"

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[1] *Vocational Education*, May, 1914, pp. 338–343.

EDUCATIONAL EVENTS

THE DISBANDING OF THE STUDENTS' ARMY TRAINING CORPS

THE Committee on Education and Special Training of the War Department sent on

November 28 the following telegram to the heads of the 565 colleges in which some 133,000 students of the Army Training Corps are enrolled:

Commanding officers, all units S. A. T. C., both sections A. and B., have been directed to demobilize and discharge the men, commencing the week of December 1, with a view to completion of discharges by December 21. Secretary of War has directed this committee to arrange adjustments under contracts between institutions and War Department concerning which you will be advised.

The Boston *Transcript* says:

While this summary order from Washington can not be said to have come wholly unexpectedly, it had been hoped by the colleges that, in view of the contracts which they had entered into and on which they had based their whole year's work, they would be given a longer period of time in which to adjust themselves to the new conditions created by the signing of the armistice. What the immediate effect will be can not be determined now with any degree of accuracy, but it is a fact that every college stands likely to lose a considerable percentage of its student body and suffer financial losses of no mean importance.

When the year began, the colleges had been put on a footing which they never knew before. They had submitted to a standardization of their curricula, to a subordination of all their own interests to the greater interests of the country; they had given up their own traditions, their own academic standards of admission and graduation in order that they might go on a military basis. They built new buildings to meet Army conditions and they remodelled old buildings. Dormitory walls were torn down in order to turn residence halls into typical Army barracks, unused lecture halls were made into mess-halls, gymnasia into drill-halls and fraternity and club houses into officers' quarters, infirmaries, etc. For them the inauguration of the S. A. T. C. plan involved the greatest upset of all time. And all the time there was the expectation that the new conditions would obtain for one year at least, because all contracts with the War Department were made on that basis.

The financial hurts imposed by this new order will in many cases be extreme. That the colleges will lose thousands of their students and hundreds of thousands of dollars in revenue from tuition there can be no question. It is impossible to estimate the number of men who went to college this fall, not primarily because they wanted a college education but because they wanted to avail themselves of the unusual opportunities which the S. A. T. C. presented. That number, however, certainly runs well into the thousands. In return for joining the army and submitting themselves to army discipline and military drill, these men were to be given their tuition, board and room by the War Department and in addition were to receive the pay of a private. Even men who had no idea of going to college but who had received a high school education and felt that it would be to their advantage to beat the draft by getting a few months of training before their numbers were called were told that the thing for them to do was to enrol in S. A. T. C. somewhere. To make it still easier for them the admission requirements which have commonly obtained were lowered to a perceptible degree. Many of these men were glad to go to college as long as war was in progress, as long as that course offered them a chance to go to war as officers instead of as privates and, most important of all, as long as they were to receive their education free and be paid for taking it.

Thousands of men left actual jobs to go to college, and now that the S. A. T. C. is to be disbanded, they will go back to work. A questionnaire taken at one college this week in anticipation of just such an order as the one promulgated to-day, revealed the fact that 75 per cent. of the men enrolled in the unit had decided that they would leave college if government subsidy was withdrawn. Perhaps this proportion does not obtain at other institutions and perhaps the losses will not be so severe when actualities instead of possibilities come to be faced, but it is vain to believe or hope that the depletion of enrollments sure to come can be anywhere near made up by the return of former students who left college a year ago to enter the service as volunteers.

THE COLLEGES AND THE RETURNING EXPEDITIONARY FORCE

PRESIDENT R. D. HETZEL, of New Hampshire College, suggests to the War Department that it make use of the colleges of the country as way stations for the soldiers of the expeditionary force on the way from the front to their final places in the peace life of the nation. President Hetzel feels that there is an opportunity for the college to render distinguished service to the soldiers in this respect, and to this end has sent the following letter

to Colonel Robert I. Rees of the Committee on Education and Special Training at Washington:

May I express the hope that the War Department will make use of the Students' Army Training Corps in the process of demobilizing the army. From the standpoint of one charged with the administration of the S. A. T. C. work at what might be called a typical land grant college there seems to be great advantage in such procedure.

In the first place we owe something to the boys who have been fighting our battles and I think that the country is generally agreed that there is no more fitting compensation than education at public expense. Furthermore the process of fitting back into the industries the 3,700,000 men now under arms must be carried forward with great caution. In the interest both of the individual soldier and stable industrial adjustment, it is desirable that the men be trained for the particular field they hope to enter and then placed as the changing industrial conditions create proper opportunity.

It has been my privilege to receive from the men who have been training in the S. A. T. C. preparatory to military service much testimony to the effect that the training they were receiving would be of very great advantage to them when they return again to the industrial world. If the training which was primarily designed to fit them for more effective military service was of value in preparing them for peaceful and normal occupations, there would seem to be every reason to believe that a slight adjustment in the present plan would prove of even greater efficacy.

We are all conscious of the influence these men will have upon public opinion in this country following their return. It seems to me that there might be advantage to the nation in providing a way station to which these men might stop and adjust themselves in an environment of wholesome and sound influences.

Many of the colleges of the country are prepared to do this service. They have the organization, the physical equipment and the experience in handling large groups of men in the organized service of the country. There would, therefore, be very little adjustment necessary on the part of the institutions of the country and practically no expense except such as is involved in maintenance.

What I have attempted to express would be true particularly of the vocational work. Everything is in readiness to receive these men and in a comparatively short time adjust them to peace conditions and deliver them more fit for the very important service that is before them.

THE TEACHING OF AGRICULTURE TO THE AMERICAN EXPEDITIONARY FORCE

DR. KENYON L. BUTTERFIELD, president of the Massachusetts Agricultural College, and a member of the Army Educational Commission in charge of vocational training, has sailed for France to join his associates, Dr. John Erskine, of Columbia University, and Frank E. Spaulding, Superintendent of Schools of Cleveland. Before leaving Dr. Butterfield announced, according to a press statement, that he would be followed by seven or eight presidents and deans of American agricultural colleges, who will act as regional directors overseas. Under them will serve the faculty of experts, recruited in the United States to supervise the teaching staff that will be obtained from the fighting forces.

Dr. Butterfield said that he expected to find in Paris a list of former teachers, alumni and students of agricultural colleges who are now in the army, and will be available for teaching service in what has been called "the world's greatest university." He carried with him a list of nearly 200 names, furnished by a large western university, of men who will doubtless be transferred from fighting units to the educational system set up by the government through the agency of the Y. M. C. A. Dr. Butterfield has canvassed all the universities and colleges in his compilation of a prospective faculty to provide educational opportunities for the fighting men overseas. He said:

The scope of the system outlined by the commission will be recognized when I say that from the United States alone we shall recruit experts on soils and fertilizer, cotton and other southern crops, grain and northern crops, live stock, dairying, horticulture, agricultural engineering, farm management, agricultural economics and country life.

So far as possible "Khaki College" will be an institution in which the student may matriculate in regular classes and courses of study. Lectures

and demonstrations will be conducted by the visitation method; that is, by utilizing all the opportunities overseas for giving the men an insight into the best French farming methods, horse breeding, intensive gardening, and the like. It will be possible for the student to begin practically where he left off in America before he responded to the call to the colors, and in accomplishing this result it is expected that the doors of the great French universities will be thrown open to the men of advanced classes.

Along this line I may say that we expect to be confronted with the problem of many men who have never done any agricultural work, but who feel that when they are demobilized they would like to make their living from the soil. The commission plans to furnish advice and counsel to such men regarding the possibilities of the future for them in agricultural pursuits. I expect that this counsel and guidance will be one of the most important functions of our entire system. We intend to cooperate in any constructive plan that may be offered for settling large numbers of the fighting men upon the land when they return to America.

Dr. Butterfield estimated the number of men from farming communities as at least 25 per cent. of the total of men in uniform overseas, and it was his belief that at least 25 per cent. more are interested in the possibilities of taking up agriculture when they are mustered out of the service.

MEETING OF THE ASSOCIATION OF AMERICAN UNIVERSITIES AT HARVARD UNIVERSITY

THE Association of American Universities held its Twentieth Annual Conference at Harvard University on December 4 and 5. The date of the meeting was set to make it possible for the members of the British Educational Mission, which comprises seven representatives of British universities, to be present at the meeting and to participate in the discussions. Inasmuch as the chief object of the mission in visiting this country is to promote a closer relationship between the British and American universities and colleges, the invitation to attend the meeting was extended to 160 universities and colleges in addition to those holding membership in the association. Thus the members of the British mission had an opportunity to meet the representatives of American higher educational institutions and to discuss with them matters of mutual interest.

Owing to the fact that all the dormitory and dining hall facilities at Harvard are taxed to the utmost with the military forces in training here, the headquarters of the Association was at the Hotel Somerset, Boston. The meetings were held in the Faculty Room in University Hall on Wednesday, the fourth, and at the Harvard Medical School on Thursday, the fifth. President and Mrs Lowell entertained all the delegates at luncheon on December fourth, and later in the afternoon on that day there was an official inspection of the Widener Library. On the evening of the fourth, the delegates were the guests of the university at dinner at the Harvard Club of Boston. On the fifth, Dean and Mrs. Edsall were the hosts at a luncheon at the Harvard Medical School. On the evening of the fifth, there was an informal smoker at the Harvard Club of Boston.

The topics discussed at the general session of the meeting were as follows:

1. The organization and international relationship of the universities and colleges.
2. The effect of the war on education.
3. The future place of the humanities in education.
4. The Students' Army Training Corps and the future military training of students.

EDUCATIONAL NOTES AND NEWS

BY the will of the late Andrew Dixon White Cornell University will receive $160,000 on the death of Mrs. White. It receives many paintings and other objects. Dr. White had already given the university his general and architectural libraries, scientific apparatus, funds for extinguishment of debt, illustrative material, and other items, and also his house which cost about $75,000. Yale University, Dr. White's alma mater, receives $5,000 for the endowment of the Andrew Dickson White Prizes in history and composition, which are established and have since been maintained by Professor Guy Stanton Ford.

MR. FISHER, the British minister of education, has been selected by the Manchester University Liberal Association as their candidate for the combined seven provincial universities at the approaching parliamentary elections. There are two seats. The Unionist candidate is Sir Martin Conway.

PRESIDENT HENRY C. KING, of Oberlin College, is now in Paris after a fortnight of speaking at the American military headquarters. He has recently visited the northern Italian front, giving addresses in the Y. M. C. A. field headquarters, inspecting the first line trenches on the eastern Piave. He held numerous conferences with international field workers. At present he is engaged upon office work looking to a larger development of the religious side of the International Y. M. C. A. field work in France.

PROFESSOR E. C. BRANSON, head of the department of rural economics and sociology of the University of North Carolina, has been invited to go at once to France as agricultural specialist in rural life for the Army Overseas Educational Commission.

DURAND W. SPRINGER, formerly National Education Association secretary, but lately educational director at Camp Custer, has been appointed divisional educational director for the Y. M. C. A. His territory extends from North Dakota to Kentucky, and from Colorado to West Virginia.

PROFESSOR ROSWELL P. ANGIER, of Yale University, is a captain in the Sanitary Corps, National Army, at the Hazelhurst Field Medical Research Laboratory, Mineola, L. I. He has been engaged in research work on psychological tests for aviators and in instructing other psychologists to give, at other aviation fields of the country, tests already devised.

PROFESSOR W. R. GRAY, of Dartmouth College, who for the past year has been acting director of the Tuck School, went to Washington on October 1 to take charge of a division of the War Department which is organizing and operating the accounting of the business arrangements between the War Department and the colleges having units of the Students' Army Training Corp.

PROFESSOR JOHN E. STOUT, of Cornell College, was recently offered the presidency of the State Normal School at Valley City, North Dakota, but refused it in order to lead in the Junior Red Cross work for the Central District.

A CORRESPONDENT at the University of North Dakota writes that Dr. Henry R. Brush, head of the department of Romance languages, has been given leave of absence for the year 1918–19, to accept an urgent call for war service in recruiting educational workers, especially teachers of French, for the Y. M. C. A. The work will call for extensive travel in this country, and probably for overseas service in France and Italy. Professor R. W. Cooley, of the law school, has accepted an appointment for war service with the Bureau of War Risk Insurance at Washington, being on leave of absence for the academic year 1918–19. Dean George F. Wells, of the law school, has been appointed Assistant Secretary in the War Labor Bureau at Washington.

MISS MARY MCDOWELL, the Quaker teacher who was dismissed from the Manual Training High School because she was opposed to war, has decided to appeal to the State Commissioner of Education for reinstatement. Judge Philin denied her application for a mandamus on the ground that she should have applied to the State Department of Education. The Society of Friends is supporting Miss McDowell and its counsel has announced that he will take her case to the Supreme Court of the United States if necessary.

DR. C. WARD CRAMPTON, the director of physical training in the schools of New York City has been granted a year's leave of absence with half salary by the Board of Education for the restoration of his health.

FRANCIS W. KIRKMAN, state supervisor of vocational education of Utah has recommended continuous supervision by local boards of education over all children between the ages of twelve and eighteen, who shall be required

to register at least once each year with the local school authorities.

SUPERINTENDENT E. O. MAPLE, of Vincennes, Ind., has resigned to accept the vocational education direction of the men at the Great Lakes Naval Station.

MRS. ELLEN DABNEY is on leave of absence from her supervisorship of the city schools in Seattle and is city home demonstration agent for the District of Columbia.

A. W. GRAHAM, of the Missouri Valley, Iowa, schools, has recently been elected city superintendent of the York schools.

GEORGE N. PERKINS, of Waterville, Maine, has been appointed to succeed W. D. Parkinson as superintendent of schools at Waltham, Mass.

RECENT appointments at the University of Buffalo include: Dr. Julian Park, professor of history, to be acting dean of the college of arts and sciences; Alfred E. Day, formerly of the Syrian Protestant College, professor of biology; William B. Arvine, formerly of the Taft School, assistant professor of English; Octavio Soto, instructor in Spanish; Augustus H. Shearer, instructor in history; Carl F. Sickmann, instructor in German; Walter D. Head, lecturer in education; Louisa H. S. Lawton, lecturer in education.

AT Cornell University Mrs. Dorothy Russell Naylor, '13, has been appointed instructor in mathematics in place of Percy A. Fraleigh, '17, who has received leave of absence for National service. Frances G. Wick, '05, has been appointed acting assistant professor of physics for the current year.

DR. S. D. ZELDIN, of the College of Hawaii, has been appointed professor of mathematics in Olivet College.

DR. RUTH WHEELER, for many years at the University of Illinois, is in charge of the work in home economics at Goucher College, Baltimore.

THE Ohio Wesleyan University and faculty has welcomed to its student body René Lamar, Marcel Tonnoir and Miss Marguerite Andrade. The two men are disabled French soldiers. These French students have been assigned to the Ohio Wesleyan University by the American Council on Education. They will be educated at the expense of Ohio Wesleyan University.

THE *Virginia Journal of Education*, which will be published in future by the State Teachers' Association, will be edited by Dean A. B. Chandler, Jr., of the State Normal School at Fredericksburg, and W. C. Blakeley, secretary of the State Association.

DR. O. T. CORSON, who has been the owner and editor of the *Ohio Educational Monthly* for twenty-three years, has sold the publication to Mr. J. L. Clifton, the managing editor.

THE work of the commission on Secondary Education appointed by the North Central Association has been assigned to the subcommittees as follows: (1) Standardization of High School Administration—Superintendent J. H. Newlon. (2) Curriculum Organization—Professor John E. Stout. (3) Educational and Vocational Guidance—Professor G. M. Whipple. (4) Scientific Management—Mr. P. W. L. Cox. (5) Supervised Study—Professor Frank G. Pickell. (6) Supervision of Teaching—W. W. Charters. (7) Correlation of English in High School Work of the Interrelation of High School Courses—Unassigned.

PROFESSOR ROMERA NAVARRO, of the department of Romanic languages and literature, of the University of Pennsylvania, is now in Madrid, Spain, where he is delivering a series of lectures on the general subject of the intellectual relations of Spain and the United States in various parts of Spain. Professor Navarro will deliver the first of his lectures in the towns of the north, afterwards visiting many places throughout the country. The purpose of Professor Navarro's visit to Spain, where he will remain for a year, is to spread in that country a knowledge of the life, institutions and ideals of the American people. Especially will his purpose be to point out the great feeling of sympathy which exists in the United States for the Spanish-speaking

countries, the important work carried on by American scholars in the field of Spanish letters and the complete vindication of the colonization work done by Spain in the New World accomplished by American historians.

THE University of Cincinnati has arranged extension courses of lectures on problems relating to war and reconstruction. The following courses are scheduled:

Evolution—its Nature and Effect upon Human Ideals: by Professor Harris M. Benedict.

Social Thought in Contemporary Fiction: by Professor Clarence D. Stevens.

The Nations at War: by Professor Guy Allen Tawney.

Race Psychology: by Professor Ernest L. Talbert.

Principles and Methods of Social Service: by members of the university faculty and local and national social workers.

PROFESSOR PAUL KLAPPER, of the College of the City of New York, has collected a series of manuscripts prepared by various authors, relating to college teaching, which he expects to publish in book form.

IN recognition of the fact that John Harvard was a graduate of Emmanuel College, Cambridge, England, the Harvard Club of London has presented the college with a silver tankard, standing on a silver tray, and marked with the coats of arms of both colleges and the following:

TO THE MASTER AND FELLOWS OF EMANUEL COLLEGE
FROM THE HARVARD CLUB OF LONDON
MDCCCCXVIII

A PORTRAIT of Dr. Marion D. Learned, late professor of Germanic languages and literature at the University of Pennsylvania, was presented to the university by his former students and friends at the opening exercises of the graduate school. The portrait was executed by Elsa Koenig Nitzsche. Dr. D. B. Shumway, chairman of the committee, made the presentation address. The program included an address by Provost Smith and a lecture by Dr. Lightner Witmer, professor of psychology. An informal reception to the new students by the Faculty College of Fellows and the student body followed.

A MEMORIAL tablet and medallion of the late Mr. F. W. Rudler, in the quadrangle of the University College of Wales, Aberystwith, in which Mr. Rudler was one of the earliest professors, 1876–79, was unveiled by Professor J. Mortimer Angus, on October 18. Mr. Rudler attached great value to students' geological excursions, in regard to which he himself rendered devoted service during his membership of the Geologists' Association. A few of his friends are, therefore, desirous of creating a fund to be capitalized, the annual income from which is to be devoted, on the recommendation of the professor of geology, towards the defrayment, where necessary, of the expenses of students during such excursions.

DEAN W. HORACE HOSKINS, of the New York University Veterinary College, announced yesterday the establishment of the Major Harry Douglas Gill Scholarship at the veterinary school "to give some poor New York boy an opportunity to get a four years' training in veterinary surgery and medicine free as an honor to the prominent veterinary surgeon and who died at Waynesville, N. C., on October 3, after refusing to give himself the attention that would have saved his life because he believed his country could not spare his services." Major Gill was connected with the veterinary college from the time he was a student until his death, a period of thirty years. He was at various times president, secretary and member of the teaching staff in the department of animal surgery.

DR. BERTRAM L. CUNNINGHAM, assistant director of educational hygiene for the department of education, New York City, died on October 21 from influenza.

MRS. MARIA KRAUS-BOELTE, known for his lectures and publications on the kindergarten, has died at the age of eighty-two years.

THE Loyola University School of Medicine has recently been reorganized. The buildings and equipment of the Chicago College of Medicine and Surgery were purchased in September, 1917, making an important addition to the resources of the school. In the department of anatomy Dr. R. M. Strong, professor

of anatomy at Vanderbilt University Medical School, has been appointed professor and head. Dr. Thesle T. Job has been made assistant professor of anatomy.

THE will of the late Dr. John C. McClenathan, Connellsville, the value of whose estate is approximately $160,000, leaves the bulk, after the death of his widow, to Washington and Jefferson Colleges to erect a building to be known as the McClenathan Hall of Science.

IN his annual report to the trustees of Oberlin College, President Henry Churchill King comments on the significant facts of the year. "Three things naturally stand out most prominently in this year now under review: The beginning of the income from the Hall estate; the first year's use of the Art Building and its endowment; and the effect of the war on the life and work of the college. The receipt of the income from the Hall estate more than doubles our entire previous income from invested funds. It has made possible a gross increase of salaries amounting to $71,000 and an enlargement of the teaching staff in some departments, to the amount of $20,000. The financial administration of the college publishes the budget for the current year as follows: The income from university, $176,174; college of arts and sciences, $206,939; graduate school of theology, $41,130; conservatory of music, $96,000. This is distributed through the expense account as follows: University, $181,373; college of arts and sciences, $203,239; graduate school of theology, $40,131; conservatory of music, $95,100.

ACTING under instructions from Washington, Amherst College has taken the first step toward a return to conditions prevailing before the war when the faculty voted to withdraw all special technical courses such as military law, sanitation and hygiene, and return to substantially the former schedule. The students' army training corps will continue military training on a reduced schedule of six hours a week, half of which will be devoted to physical training.

DISCUSSION AND CORRESPONDENCE

"UNIONISM" AMONG TEACHERS—A REPLY

UNDER the subject of "'Unionism' Among Teachers," in SCHOOL AND SOCIETY for November 16, the question is raised whether it is not a serious mistake for the American Federation of Teachers to affiliate with the American Federation of Labor. In the first place the writer seems to fear that such affiliation tends to consciousness of class and, therefore, is opposed to democracy and the welfare of the children of all the people. In support of this statement our attention is called to a teacher whose alignment with a labor union during a strike touched her heart in behalf of the hardships and struggles of labor. The writer appears to overlook the fact that such sympathy on the part of teachers is an encouraging sign of the times, for most people are engaged in common labor; most of the children of our public schools are the children of common people who receive wages and live from hand to mouth. I say that it is a good sign, for it indicates that teachers are casting their lot with the vast majority—the common people. Instead of being undemocratic, as the writer would have us believe, it is most democratic. It is true, however, that it is hard on the small minority—the owners and managers of street railways and the like and their dependents—lawyers, doctors, ministers, and others. But such as these are in the minority numerically, even if they are in the majority relative to material wealth and social prestige. Indeed, to this minority class the teacher owes but little gratitude, except the gratitude for being their slaves. This minority class has insisted and still insists that teachers get lots of "pedagogy" but never has that class been sincerely interested in the human welfare of teachers—in their material conditions and standard of living, for these ugly things to that class apparently have no bearing on *their* children. In connection with this matter Dr. John Dewey, in an address delivered before the American Federation of Teachers during the National Education Association Convention, New York, July 6, 1916, said:

Objections are frequently made—generally, I think, of a very snobbish character—against these federations, because of their affiliation with labor unions. I won't stop even to argue against the merely snobbish features of that matter. I would like to point out that these labor unions are engaged in useful service and they are also servants of the public.

There is one other thing I want to say. Why is it that teachers—who have not had to live by the labor of their hands and suffered the privations and difficulties of many of the members of the trade unions—have found it necessary in the time of need and extremity to turn for active support, not to manufacturers' associations and lawyers' associations, and the so-called respectable elements of the community, but have had to turn to these bodies of organized labor. I think it is cause for shame and humiliation on the part of the so-called respectable classes; but, I think on the other hand, it is a source of pride and self-respect for the members of these labor unions and is a reason why every teacher should feel proud to be affiliated with the labor unions.

Since the writer says that consciousness of class is the main argument against "unionism" among teachers, a few more lines may be written on that phase of the matter. One might assume that the writer approves of consciousness of class among the owners and managers of street railways, bankers' associations, lawyers associations and the like. At least he presents no charge against that brand of class consciousness. However this may be, there is a marked consciousness of class among the so-called respectable elements of society. The hopeful feature of such a consciousness of class seems to lie in the fact that these respectable elements are gradually losing the respect of the vast majority. Through a subsidized press and platform, and not a few blue-milk educators and upper class conscious school magazines, this respectable minority aims to dominate our manners, our intellectual interests, and moral standards. While this pathetic drama is being enacted, labor every day is growing more conscious of its power and destiny. Time and education will complete the work. The teacher by affiliation with organized labor, with the common people, puts herself in position to help the birth of a new democracy—the democracy of the common people. By so doing she indicates a depth of insight and a largeness of sympathy that is not evident among the so-called respectable classes. In truth she is casting her lot where Jesus cast his lot—among the common people.

There is another phase of this subject considered by the writer, namely, the fact that teachers' federations and labor unions are naturally divided by the kind of service each renders society. The distinction, however, is too thin for serious consideration. The writer says that industrial laborers and their employers share directly in the proceeds of their joint product and it is the function of the union to assist the laborer to get his just share while, on the other hand, teachers share in no such proceeds and have no such problem. This distinction is misleading, for it makes two classes on the basis of products—one material and the other spiritualized ether, the teachers being in the latter class. The evident fact is that labor, regardless of kind, is a consumer. This is the only fair and reasonable basis for this matter. Teachers as well as bricklayers must live. This is an elemental fact. Whether the teacher should receive more than a certain kind of common labor, does not enter into the question. It is simply a matter of the teacher or the common laborer being assured of at least enough to provide for the consumptive goods essential to have security and comfort, health and strength, and the material opportunities for intellectual and moral development. It is as simple as the fact that the steam in the boiler requires fuel regardless of whether the boiler is five or twenty horse power. In a word, one can no longer look with ugly eye on teachers because they insist, just as bankers and doctors and lawyers insist, on good material measure for their services. And it is not evident that our doctors and lawyers because they have talked dollars while they served, have become weak and immoral, which the respectable class fear will happen to the poor teachers should they

align themselves with "unionism" so as to increase their own material welfare and, therefore, their self-respect.

ALFRED H. FORMAN
PRINCIPAL OF MARS HIGH SCHOOL,
MARS, PA.

QUOTATIONS

A LEAGUE OF UNIVERSITIES

THERE is much necessary talk of a League of Nations to-day, and indeed such a leauge is already fighting for the freedom of the world. Such a league, if it is to achieve any permanent form, must be based on the civilization common to the leaguers, and this civilization must be a product of the moralized thinking power common to all the nations. Signor Berenini, the Italian Minister of Education, had doubtless this conception of an international unity of higher education in mind when he recently announced the forthcoming institution of eight chairs of English literature in Italian universities, and further facilities for the admission of British students to Italian universities with free tuition in the case of poor scholars. In these pages we have dwelt without intermission on the necessary unity of all education. Signor Berenini's announcement suggests the logical conclusion of this conception of education. A League of Nations can never become a permanent force in human affairs until there is a linking up of the humanistic, philosophic and scientific forces of the various members, until there is, in fact, a league of universities. Here lies the true "International," and, as we shall show directly, such a union is intimately related to the highest conceptions of organized labor. Signor Berenini, no doubt, in his proposals intends to add a new link to the time-long literary associations of Italy and England. To Roman Italy we owe our first period of humanism, when Latin was for centuries the vernacular of our people; to Italy and Roman law we owe that system of provincial government which has made the British a continuation of the Roman Empire; to Dante, Boccaccio, Petrarch, English literature, from the days of Chaucer to our own time, owes a debt exceeding even the debt that it owes to Virgil. The foundation of university chairs of English literature in Italy is like the reception of a daughter in her mother's home. But larger issues than these splendid amenities are involved in such proposals.

The losses that civilization suffered during the renaissance of the fifteenth century are too often obscured by the glories of the revival of learning and of art. It was then that a new materialism leapt ready-armed into the world; it was then that chivalry died and the horors of the Wars of Religion became possible. The renaissance of the eleventh and twelfth centuries was fraught with nobler possibilities; and, had the New World and the printing press been then thrown open, many centuries of war and sorrow might have been avoided. But that earlier renaissance did in fact give to the world new and imperishable forces. The famous school of Laon, which, in the persons of Abellard and of Anselm had such endless effects on the development of France and England, was but one manifestation of those forces. The mutual reactions between France, Italy, Sicily and England at the opening of the twelfth century are in results almost unmeasurable. But one result we can measure so far as organization is concerned, and that was the uprising of the university system. From the first it was a league of universities, a movement that did not spring from the political or ecclesiastical imaginings of Pope and Emperor, but from the throbbing hearts of the peoples of Italy, France and England.

The movement was an inevitable growth of the trade and craft guilds and unions of the Middle Ages into the region where hand gives way to the operations of the spirit and the mind. And the fashion and order of the growth was significant. It first showed itself by suddenly magnifying, early in the twelfth century, the then ancient schools of rhetoric at Bologna into a great school of Roman law. Irnerius, the famous glossator, laid the foundation, and soon there arose a university in

Italy, the home of law, to which students from every country in Europe resorted. Before the middle of the century Vacarius was lecturing at Oxford, and Roman or Civil law was moulding the legal systems of Europe; and it is to be remembered that Bologna was essentially a gild of students, of men bent at all costs on democratic self-government, on the preservation, in learning as in trade, of an independent guild system. And it was these freemen unhampered by papalized doctors who dictated the principles of law to all Europe. It is indeed a lesson to the democracy of our time, a lesson to them that they should capture, as the scholars of Bologna and of Paris captured, the thinking power of the world. It is true that the University of Paris was a trade union of teachers rather than of students; but a trade union it was, and the Pope in the great days of the papacy in fact protected it from episcopal control. It was democratic as Oxford and Cambridge were democratic, despite nominal ecclesiastical control, and from this democracy of learning on the Seine, alone or in combination with the influence of Bologna, sprang the universities of France, Germany and England. Italy and France were the begetters of the great family of European universities, and the interactions between these democratic bodies promised a persistent unity to the thinking forces of Europe. The Renaissance and the Reformation, though both forces reacted favorably on the English universities, had scarcely the same effect in France, Germany or Italy. Other forces were at work which broke up that sense of a league of universities which is visible in the great period of the Middle Ages. The continental universities became subordinated to local or territorial influence or were displaced by other seats of ecclesiastical study, and the university revival in Germany during the nineteenth century was vitiated by state control.

Medieval education had its many faults; scholarship was neglected, science was in its infancy, while philosophy suffered from the lack of a practical basis. But even in the worst period the unity of the whole body of scholars throughout Europe was never forgotten. Here, as in so many other fields, medieval educational tradition has great value for those who are reconstructing education and national life in our day. There might with advantage be convened a great conference at Bologna or at Paris of the chancellors and rectors of the universities of Italy, France, the United States and Great Britain, and possibly of certain neutral countries, to arrange a definite scheme of interrelations of university life. It would be difficult to conceive of a more effective method of binding nations together, of smoothing away economic friction, of opening the doors of the mind and of the heart between nation and nation. Possibly Oxford would be the most suitable place at the present time for such a meeting. It is not many years younger than Bologna or Paris. It has traditions second to none in the advocacy of great human causes; and amid the rare beauty of its medieval buildings and its immemorial lawns it would perhaps be easier than elsewhere to evoke that modern spirit of the Middle Ages which the Minister for Education in Italy now summons from the past.—The London *Times Educational Supplement*.

BACK TO SCHOOL

"THE school is your training camp. Don't be a deserter." This is what the Children's Bureau of the United States Department of Labor is saying to the thousands of children who are leaving the schools for industry, dazzled by the present high wages offered. Jobs that offer very little training, and less hope of a future are being taken unquestioningly by the youngsters who "don't like school anyway" and think they are "old enough to work," or who feel the urge of home necessity.

The Children's Bureau has just announced a back-to-school drive whose object may be stated in the President's words "That no child may have less opportunity for education because of the war." The drive will attempt two things: to return to the schools and keep there the children who have deserted them for

industry, and to keep the children now in school from leaving prematurely. The actual work of the drive will be done through the Child Conservation Section of the Council of National Defense which is organized into state, county and local units. In each school community committees are being formed whose first duty will be to study child labor and school attendance laws. After that they will go to the county superintendent, the school principals, and teachers to get accurate lists of the children who have not returned to school. Then begins the real work of getting the children back. Parents will be called upon, and the committee members will talk over with them why it is important not only to the child but to the country that he be well prepared for work before attempting it. Where the reasons for leaving were pecuniary an adjustment will be attempted so that the child can return. The Bureau urges that the adjustment take the form of a scholarship similar to those in practically all of the colleges, and in certain city school systems. The average amount of school scholarships is $120 a year, and it is hoped that as a result of the drive an average of at least one will be founded for each of the 281,000 school houses in the United States. The Red Cross will help to keep in school those children who have a father or brother in the service.

The refusal of the federal government to employ children in essential industries gives point to the bureau's contention that they should not be allowed to be employed to furnish a cheap source of labor for non-essentials. The War Labor Policies Board, which is composed of representatives of all the departments directly concerned in the prosecution of the war, has made a definite ruling that children under fourteen shall not be employed on war work and that children between fourteen and sixteen shall not be employed on war work for more than eight hours a day or six days a week, or between 7 P.M. and 6 A.M.

This action has been followed by a general order to all branch offices from the director of the United States Employment Service. The order states that the policy of the service is to discourage all children under sixteen from leaving school. If a child under sixteen is placed, federal standards of child labor will be followed unless the standards of the particular state in which he works happen to be higher. In that case the state standards will be observed. An effort to put the children in suitable and "developing" positions will be made, and so far as possible the conditions under which they work will be investigated.

The United States Boys' Working Reserve refuses to give federal recognition to boys under sixteen who are employed on farms or in industry. It maintains that children under sixteen should be kept in school by all the pressure that can be brought to bear, on the ground that the future welfare of the nation depends on the educational training of its youth.

The opening of the schools for the fall term gave the Children's Bureau an opportunity to find out to just what extent children were leaving school prematurely, whether those who had worked on vacation permits were returning, and, in general, the conditions among working children. A series of inquiries were made in typical industrial and commercial centers to throw light on these and other questions. The cities studied include New York, Philadelphia, Chicago, Boston, Baltimore, Pittsburgh, Washington, Wilmington, St. Louis, Cincinnati, Louisville and several smaller cities. In Washington it was found that this year 1,095 permits to work either outside school hours or full time had been granted under the law which permits children of twelve or thirteen to work, if, in the opinion of the juvenile court, the poverty of the family justifies it. In 1916–17 only 277 such permits were issued. This is a gain of 295 per cent. The number of children from fourteen to sixteen who were granted regular working permits rose from 727 in 1916–17 to 1,917 this year—an increase of 164 per cent. In Wilmington 61 per cent. more children have taken out permits this year than last. Prac-

tically all of this 61 per cent. have definitely left school to enter industry on full time.

Reports of greatly increased shifting from job to job seem to indicate that the child is not finding in his work a steadily progressing training. The figures do not show that children are staying at their jobs more steadily because of higher wages, or that they are staying long enough to gain from their industrial training experience which will make them increasingly useful.

The bureau emphasizes the fact that the success of the drive depends largely on an educated and intelligent public opinion which will insist upon the complete enforcement of child labor and school attendance laws, and demand that each community shall see to it that its children are not deprived because of poverty. The school welfare committees are urged to secure for their communities the visiting teachers, vocational advisers, and similar means of guarding the school child's well-being which have proved their value in other localities.

EDUCATIONAL RESEARCH AND STATISTICS

SPEED VS. ACCURACY IN LEARNING

COURTIS,[1] Kirby,[2] Thorndike,[3] Woody[4] and others have noted that speed and accuracy in the fundamental operations in arithmetic go hand in hand.

Thorndike found, for example, that of 671 students in addition tests,

> the best 65 averaged 150 additions per 100 seconds, while the worst 20 averaged only one fourth as many. . . . The 65 rapid adders made 7 errors per 1,000 additions, while the 20 slow adders made 17½. The same relation is shown throughout the intermediate speed groups, and is permanently characteristic there also. . . . The same individual may lose in precision by increasing his speed (though he will not always do so), but the sort of individual who is rapid will tend to be accurate also.

Similar results were found by Thorndike,[5] in handwriting and by Quantz[6] in reading.

Contrary to Thorndike's suggestion above, that such studies do not indicate that the increase of either speed or accuracy will insure a corresponding increase in the other factor, apparently there has been among some school men the assumption that increase in speed will carry with it an increase in quality of performance.

Peters[7] studied the influence of speed drills upon rate and quality of silent reading in school children.

He concludes:

> This experiment has not confirmed the doctrine that increase in speed will carry with it, in many given individuals, also increase in effectiveness.

The writers have attempted, on the other hand, to ascertain if emphasis on accuracy tends in the long run to accelerate speed. Accordingly speed attitude in learning has been studied in comparison with accuracy attitude. It has occurred to the writers that James's maxim, "Let no exceptions occur," has not received due consideration in experimental studies and in educational practise.

For this study it was desirable to have the performers work at a task as nearly unfamiliar as possible. Accordingly none of the performers had had any practise in the things to be learned. Two types of experiments were devised; one in which the learner's errors were accurately recorded by his performance, another, in which all errors had to be corrected when made, by virtue of the kind of performance. Typewriting conformed to the first type; fitting well-shuffled colored cubes,[8] each

[1] Report on Educational Aspects of the Public School System of the City of New York, Section D. The Courtis Tests in Arithmetic.

[2] "Practise in the Case of School Subjects," Columbia Contributions, Teachers College, 1913.

[3] "Relation between Speed and Accuracy in Addition," *Journal of Educational Psychology*, 1914, 5, 537.

[4] "Measurements of Some Achievements in Arithmetic," Teachers College, 1917.

[5] "Handwriting," p. 35.

[6] *Psychol. Rev. Mon. Suppl.*, Vol. 2, No. 1, 1897.

[7] "The Influence of Speed Drills upon the Rate and Effectiveness of Silent Reading," *Jr. Ed. Psychol.*, 1917, 8, 350–367.

[8] These cubes, which offer splendid material for

of whose faces has a separate color, into a box so as to form a solid blue surface, conformed to the other type.

For the cube test two squads, of 5 normal school girls in each squad, were selected on the basis of equal performance with the modified Seguin form-board in 3 successive trials

Each girl fitted the 36 blocks once daily, for 60 successive school days. One squad emphasized speed, the other accuracy. Each performer was reminded at the beginning of each trial of the thing she was to emphasize. After about 8 months all were unexpectedly called upon to repeat the performance 3 successive times on one day, when all were told to work for speed.

In the typewriting experiment the two squads of 7 girls each were arbitrarily chosen; it so happened that they were practically identical in initial performance. All performers wrote the same sentences for three minutes daily, for 36 successive school days as indicated below:

1. The quick brown fox jumped over the lazy dog.
2. Americans of 1917 will get the spirit of '76.
3. Yesterday 42,836 tons plowed through the "zone."

Sentence number 1 was written for 25 days; number 2, for 4 days; number 3, for 3 days. Then number 1 was written on the next 3 days, followed by one day of number 2. Unfortunately state examinations interrupted the experiment here.

After 4 months of no practise each squad copied, for 10 minutes, unfamiliar prose. Only 6 girls remained of each squad then. *X*, of speed squad had taken a commercial course in the meanwhile and *Y* of accuracy was so disturbed in her performance by an unavoidable interruption that her data were discarded as worthless. The same machine was used throughout, and the scheduled times of performance were adapted to the school program. As many of the speed as of the accuracy group wrote in the morning hours.

No attempt was made to teach method of procedure. A few fundamental facts as to introducing paper, spacing, shifting of carriage and keys were given each subject at the outset.

For this as well as for the cube test the performers were volunteers, all of whom cooperated most heartily throughout.

The cube records were kept in stop watch time and each performer was appraised of her daily record. The number of correct letters written measured the progress in typewriting. Errors were counted as follows: each word, letter, digit, punctuation mark or spacing omitted, wrong spacing, a letter raised noticeably above the line, a letter too dim to be easily read, was counted one error. Inverted letter order as *teh* for *the* counted two errors.

Fig. 1 gives curves for the cube test and Fig. 2 for typewriting. The numbers to the left (Fig. 2) represent average letters per 3 minutes. The number attached to each graph represents the sentence [written]. Whereas the accuracy performers in the cube test are behind in the early days they gradually overtake, and then surpass the speeders. The accuracy group maintain their supremacy after 8 months. The average times for the two squads in the three successive trials at the same hour, after 8 months are 40.6 seconds (speed) and 37.9 seconds (accuracy). These data are as should be expected, since all performers inevitably penalize themselves by every error made, because all errors had to be corrected. The speeders naturally, too, made the more errors, especially in the earlier performances, which errors tended to persist. In terms of the number of correct letters written the speed group in typewriting became increasingly superior for the first sentence which was practised 25 days. For the second the accuracy people start higher but, because of greater care, perhaps, do not rise quite so high. For the third sentences the records are practically identical. Apparently then the accuracy group have transferred relatively more from their first to their second and third practise sentences than did the speeders. This is significant. As would be expected the accuracy group make a poorer start when sentence number 1 is relearned. They gain more, however.

laboratory purposes, can be purchased at almost any department store.

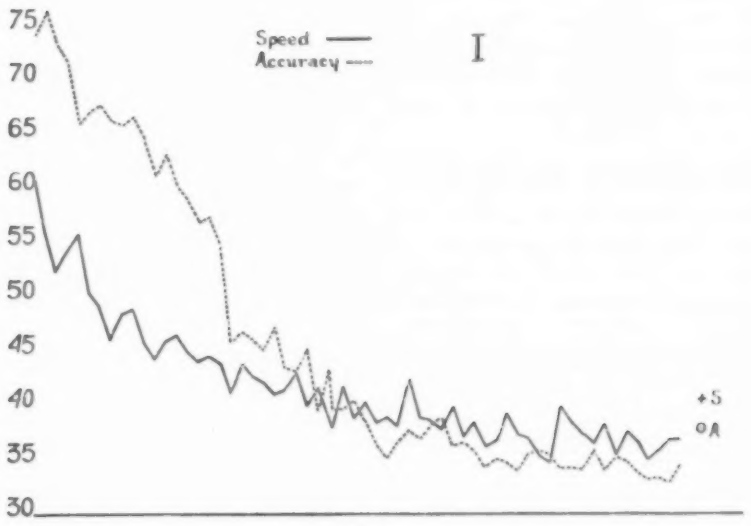

FIG. 1.

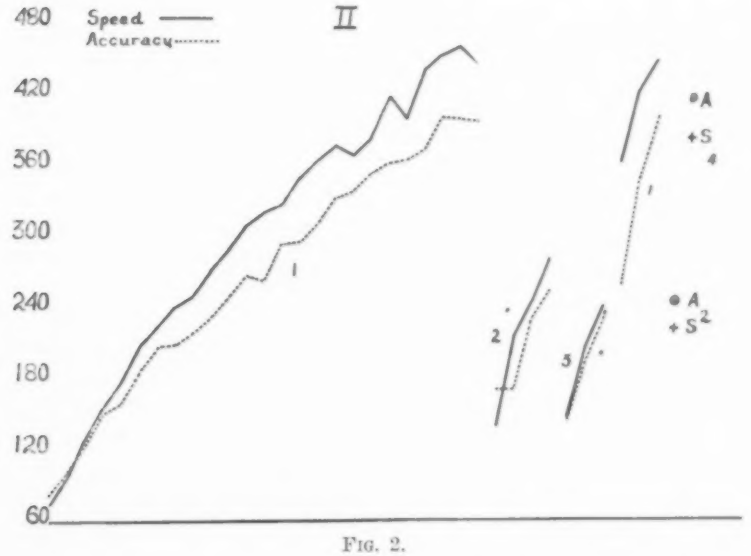

FIG. 2.

When sentence number 2 is tried again, the accuracy group is well in the lead and after 4 months, with unfamiliar material, their leadership is without question. This is, perhaps, the vital test of speed, since, as the senior writer has suggested elsewhere, an unexpected measure of the learning product long after the learning is a more desirable measure, in terms of life, than a measure during the learning or immediately after it.[9] The absence of X and Y, of speed and accuracy, respectively, (as noted above) should not favor the accuracy group. The probability is that the speeders were favored thereby, since on their last per-

formance *X* ranked only sixth best while *Y* ranked third best. Doubtless then, the difference between the 383.4 average letters by the speeders and the 450.7 by the accuracies suggests a fundamental difference in the learning product of the two squads.

If, therefore, these data are representative of what would happen had there been an infinite number of performers it would be safe to say that for mere speed in typewriting, accuracy rather than speed should be the goal; and that speed will take care of itself, as a rule.

But let the quality of the product be considered. Here naturally the speeders were far behind.

Below are the average number of errors per 100 letters for each squad for each successive performance.

ERRORS PER 100 LETTERS WRITTEN

Trial	1	2	3	4	5	6	7	8	9	10
Accuracy	2.09	3.07	1.93	.28	1.60	1.22	.60	.60	.32	.31
Speed.....	4.74	4.58	3.10	2.58	2.17	2.41	2.41	2.21	1.60	1.80
Trial	11	12	13	14	15	16	17	18	19	20
Accuracy	.41	.48	.60	.39	.43	.40	.26	.54	.20	.37
Speed.....	1.65	1.32	1.78	1.34	2.61	2.25	2.14	2.07	2.28	2.73
Trial	21	22	23	24	25	26	27	28	20	30
Accuracy	.23	.49	.17	.49	.30	1.89	1.05	1.09	.61	1.26
Speed.....	2.30	1.50	2.29	2.16	2.81	3.24	1.76	2.50	2.56	4.40
Trial	31	32	33	34	35	36	Final, 37			
Accuracy	1.07	.30	.16	.12	.25	.57	1.17			
Speed.....	2.74	2.20	2.34	2.28	2.28	2.99	2.24			

Although the accuracy squad failed to make perfect records the speeders made many more errors. The indications are that the accuracy subjects here, as in the cube test, did not withstand the temptation to speed up. Indeed their introspections corroborate this inference.

Were a business man to seek the employment of these typists none will doubt that he would prefer the accuracy group. Even had they maintained inferiority in speed they would have been the more desirable.

Although this study is obviously incomplete the probability is that the following inferences are fairly safe:

1. In all learning final speed will depend chiefly upon initial as well as succeeding degrees of accuracy.

2. The most important thing in learning is precision in performance.

3. Errors in the early stages of learning tend to perpetuate themselves throughout and therefore to block progress.

In the traditional schoolroom practises frequently drill is resorted to blindly, regardless of the quality of the product. Consequently a good percentage of drill not only is worthless but it is a positive hindrance to learning. In like manner some of the regular military drill is unpedagogical.

Our data suggests, on the other hand, the value of drill where quality is the goal. *But they do magnify quality.*

If about one fourth of the child's outside written work were done, but checked up and maintained in strict accordance with perfect standards, the child would have more time for play, the teacher less for worry, and the practical world would welcome the product. As it is, the school is censured on every hand because it fails to train the child to write and speak good English, to figure accurately and to handle simplest problems with precision.

Let none believe the writers would discourage strong expenditure of energy in learning. They are aware, indeed, of evidence in favor of working against time.[10]

What they urge in learning is that the demand for accuracy be so emphatic that speed can not offer an incentive, unless quality is first guaranteed.

This problem deserves far more research. Let some one apply it to the actual learning of small children in the schoolroom.

MARGUERITE BROOME,
AUGUSTA SPETT,
GARRY C. MYERS
BROOKLYN TRAINING SCHOOL FOR TEACHERS

[9] "Delayed Recall in History," *Jr. Ed. Psychol.*, May, 1917, 275–283.

[10] Myers, G. C., "Learning against Time," *Jr. Ed. Psychol.*, February, 1915, 115–116. Also corrobative data unpublished.

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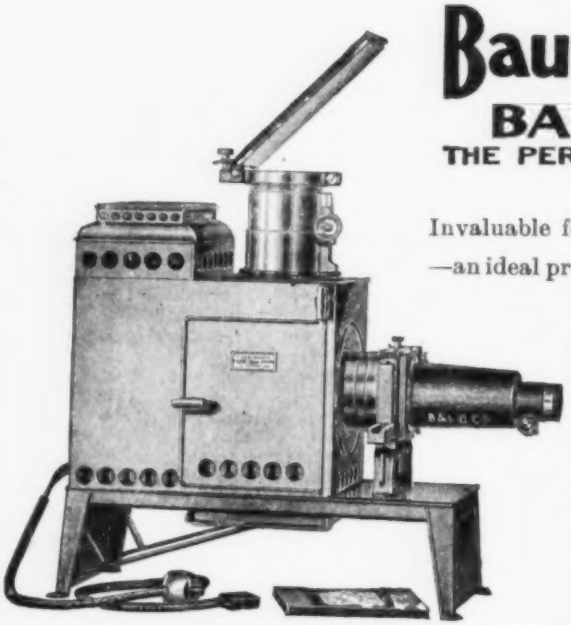

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